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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,859	06/21/2001	Alain Vanderghyest	Q64867	6301

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EXAMINER

FIORILLA, CHRISTOPHER A

ART UNIT

PAPER NUMBER

1731

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Please find below and/or attached an Office communication concerning this application or proceeding.

18-3

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/868,859	VANDERGHEYNST ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Christopher A. Fiorilla	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_                      6) ☐ Other:

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1. This application does not contain an abstract of the disclosure as required by 37

CFR 1.72(b). An abstract on a separate sheet is required.

2. The disclosure is objected to because of the following informalities:

On page 1, line 11, the word "recycle" is misspelled.

Appropriate correction is required.

3. Claims 2,3,4,5,8,9 and 11 are objected to because of the following informalities:

In claim 2, "nonflowing" should be changed to - - non-free-flowing - - so that it is consistent with the terminology used in claim 1.

The numbers in the chemical formulas of claims 5,8,9 and 11 should be changed to subscript. Appropriate correction is required.

4. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble of claim 1 refers to (U, Pu)O<sub>2</sub> mixed oxide nuclear fuel pellets but the steps of the claim do not require the addition of a Pu ingredient material. In the first step of the claim the addition of Pu is optional as evidenced by the term "and/or". The claim must be amended to require the addition of this component.

In claim 2, the phrase "the usual UO<sub>2</sub> granulation" has no antecedent basis.

In claim 2, the phrase "the tablets obtained" has no antecedent basis.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1,10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer et al. (5,841,200) in view of any one of Langrod (3,806,565), DeHollander et al. (3,930,787) or Ennerst et al. (4,247,495).

8. Claims 1, 5,10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer et al. (5,841,200) in view of DeHollander et al.

9. Claims 1,7,8,9,10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer et al. (5,841,200) in view of Langrod (3,806,565).

Bauer et al. teaches the basic claimed process of manufacturing mixed oxide nuclear fuel pellets. The process disclosed by Bauer et al. includes the steps of: dosing powders; micronization, forced sieving, additional dosing of  $\text{UO}_2$ , adding lubricant, palletizing and sintering. Bauer et al. also discloses the sintering temperature and atmosphere.

Bauer et al. does not disclose the step of mechanically granulating the  $\text{UO}_2$  so as to make the material free flowing prior blending.

Each of Langrod, DeHollander et al. and Ennerst et al. disclose granulating  $\text{UO}_2$  material for use in a process of manufacturing nuclear fuels to improve the processability of the material. Ennerst et al. discloses at col. 5, lines 2-5 that granulation produces a material which readily pours. Langrod discloses at col. 4, lines 21-25 that granulating allows for uniform pellet density. DeHollander et al. discloses at col. 5, lines 8-12, that granulating increases the flow properties and the bulk density of the uranium oxide powder. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the  $\text{UO}_2$  powder of the Bauer et al. reference to obtain the improved processability as taught by the secondary references.

With respect to claim 5, DeHollander discloses at col. 5, line 9, that the granulates are screened.

With respect to claims 7-9, Langrod discloses at col. 4 in the section labeled "COMPACTING" that the binders and lubricants may be added. It also discloses that the granulation may be carried out by forcing the material through a screen at specific pressure conditions.

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10. Claims 2-4 and 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:  
The prior art of record does not teach or suggest a process for manufacturing mixed oxide nuclear fuel pellets wherein the granulation treatment includes compressing and crushing as substantially set forth in the claims, nor does it disclose separating the granulated material into two fractions as substantially set forth in the claims.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher A. Fiorilla whose telephone number is 703-308-0674. The examiner can normally be reached on M-F, 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



**Christopher A. Fiorilla**  
**Primary Examiner**  
**Art Unit 1731**